



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/041,685 | 10/19/2001 | Katsuki Suematsu | KOBAY14.001AUS | 5444 |
| 22850 | 7590 | 03/23/2004 | | EXAMINER |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | TADESSE, YEWEBDAR T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1734 | |

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/041,685 | SUEMATSU ET AL. | |
| | Examiner | Art Unit | |
| | Yewebdar T Tadesse | 1734 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10/19/01

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-7 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date .
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____ .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Ohtsuka et al (US 6,264,375). Ohtsuka et al discloses (see column 4, lines 4-48, Figs 1-2) a method of manufacturing an optical connector ferrule where a plurality of fiber holes (20) are arranged between two guide pin holes (24), comprising the steps of arranging two forming pins for forming the guide pin holes (arranging mold pins 6 in grooves 52) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (grooves 53 holding mold pins 1A with a front end portions 10 forming parallel fiber holes); and injecting melted material resin into the cavity from one resin injection port (51) formed in the cavity.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yang (US 6,342,170). Yang discloses (see column 3, lines 7-20 and lines 35-41 and Figs 3-7) a method of manufacturing an optical connector ferrule where a plurality of fiber holes (fiber bores 95) are arranged between two guide pin holes (two guide bores 85),

comprising the steps of arranging two forming pins for forming the guide pin holes (arranging guide pins 80) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (a plurality of fiber pins 90 for forming parallel fiber holes); and injecting melted material resin into the cavity (120) from one resin injection port (inlet 125) formed in the cavity.

4. Claim 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Ohtsuka et al (US 6,264,375). Ohtsuka et al discloses (see column 3, lines 15-18, column 4, lines 4-48, Figs 1-2) a forming mold for molding an optical connector ferrule where a plurality of fiber holes (20) are arranged between two guide pin holes (24), comprising a cavity where two forming pins for forming the guide pin holes (mold pins 6 in grooves 52) are arranged in parallel to each other at predetermined interval (mold pins arranged at a predetermined position within the mold) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (grooves 53 holding mold pins 1A with a front end portions 10 forming parallel fiber holes); and one resin injection port (51) through which melted material resin can be injected into the cavity.

5. Claim 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Yang (US 6,342,170). Yang discloses (see column 3, lines 1-20 and lines 35-41 and Figs 3-7) a forming mold used for molding an optical connector ferrule where a plurality of fiber holes (fiber bores 95) are arranged between two guide pin holes (two guide bores 85),

comprising a cavity where two forming pins for forming the guide pin holes (guide pins 80) are arranged in parallel to each other at predetermined interval (accurate fiber bores and bores intervals are produced by controlling the fiber pins) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (a plurality of fiber pins 90 and see Fig 3 for bores and pins arranged in parallel); and one resin injection port (inlet port 125) through which melted material resin can be injected into the cavity.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuka et al (US 6,264,375) or Yang (US 6,342,170). Ohtsuka et al discloses (see column 4, lines 4-48, Figs 1-2) a method of manufacturing an optical connector ferrule where a plurality of fiber holes (20) are arranged between two guide pin holes (24), comprising the steps of arranging two forming pins for forming the guide pin holes (arranging mold pins 6 in grooves 52) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (grooves 53 holding mold pins 1A with a front end portions 10 forming parallel fiber holes); and injecting melted material resin into the cavity from one resin injection port (51) formed in the cavity. Yang is also cited for the same reasons discussed above. Ohtsuka et al and Yang lack teaching that the injection port is formed on a flat face with the maximum area of respective flat faces of the cavity and at a center of alignment direction of the forming pins. However shifting the location of the injection port by arranging the injection port with the maximum area of flat faces and at the center of alignment direction of the forming pins is within the art of design choice. One in the art would place the inlet port at the maximum area of the flat faces of the cavity and at a center of alignment direction of the forming pins based on trials and errors for instance to speed up the feeding of the resin into the cavity.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuka et al (US 6,264,375) or Yang (US 6,342,170) as applied to claims 1-3 above, and further in view of Ueno et al (US 6,347,890). Yang and Ohtsuka et al lack teaching the fusion

viscosity of the material injected into the cavity is 300 Pa. sec or more. Ueno et al teaches (see Abstract, column 4, lines 33-58) a melt viscosity of the resin composition from 300-600 Pa. Sec (overlapping the claimed viscosity) in manufacturing an optical ferrule. It would have been obvious at the time the invention was made to inject resin composition having a viscosity of above 300 Pa. Sec in Ohtsuka et al or Yang to prevent burr produced on the resulting ferrule when using resin having too low viscosity (less than 300) as taught by Ueno et al.

10. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtsuka et al (US 6,264,375) or Yang (US 6,342,170). Ohtsuka et al discloses (see column 3, lines 15-18, column 4, lines 4-48, Figs 1-2) a forming mold for molding an optical connector ferrule where a plurality of fiber holes (20) are arranged between two guide pin holes (24), comprising a cavity where two forming pins for forming the guide pin holes (mold pins 6 in grooves 52) are arranged in parallel to each other at predetermined interval (mold pins arranged at a predetermined position within the mold) and a plurality of forming pins for forming the fiber holes in a cavity of a forming mold so as to be parallel to one another (grooves 53 holding mold pins 1A with a front end portions 10 forming parallel fiber holes); and one resin injection port (51) through which melted material resin can be injected into the cavity. Yang is also cited for the same reasons discussed above. Ohtsuka et al and Yang lack teaching that the injection port is formed on a flat face with the maximum area of respective flat faces of the cavity and at a center of alignment direction of the forming pins. However shifting the location of

the injection port by arranging the injection port with the maximum area of flat faces and at the center of alignment direction of the forming pins is within the art of design choice. One in the art would place the inlet port at the maximum area of the flat faces of the cavity and at a center of alignment direction of the forming pins based on trials and errors for instance to speed up the feeding of the resin into the cavity.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Office
03/15/04


MICHAEL CO. AIANNI
PRIMARY EXAMINER